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10/783,465	02/20/2004	Lewis R. Dove	10020706-1	7444

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EXAMINER

LEE, BENNY T

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2817

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/783,465
Filing Date: February 20, 2004
Appellant(s): DOVE ET AL.

James Sheridan
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 7 June 2006 appealing from the Office action
mailed 4 January 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows: The reference to "Item 4" has been correctly reference to --Item 2--.

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. Claims 1-8, 22 under 35 USC 112, second paragraph.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

JA 0092102	Ishihara	June 1983
US 6,000,120	Arledge et al	14 December 1999
US 6,100,774	Cox et al	8 August 2000
US 6,307,446	Drapeau et al	23 October 2001
US 6,457,979	Dove et al	1 October 2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 22; 9, 23; 10, 24; 16, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishihara in view of Arledge et al (both of record).

Ishihara discloses a microwave circuit comprising: a first module (100); a second module (200); wherein each module includes a conductor (1) sandwiched between thick dielectrics (2, 3) and ground shields (4, 5) surrounding dielectrics (2, 3). Moreover, a cut edge or notch (6) is

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formed in the upper dielectric (3) of each module (100, 200) and the notches are arranged to face each other. Note that a small piece (7) includes a bridging conductor (11), which has a ground shield layer or cap (51) disposed over the bridging conductor. Furthermore, note that the small piece (7) is disposed such that bridging conductor (11) electrically interconnects conductors (1) of modules (100, 200) while the ground shield cap (51) electrically connects with ground shield (5). However, Ishihara does not disclose the ground shield being transverse to the conductor along the lateral edges of the microwave circuit. Furthermore, Ishihara does not disclose the mounting of the microwave circuits relative to an underlying substrate.

Arledge et al (Fig. 1) discloses an exemplary teaching of a planar microwave circuit, in which ground plane shielding is provided along the lateral edges of the microwave circuit as well as at top and bottom surfaces of the microwave circuit, to thereby prevent signal leakage along the lateral edges of the microwave circuit. Moreover, Arledge et al further discloses the mounting of the fully shielded microwave circuit on a substrate.

Accordingly, regarding claim 1, it would have been obvious in view of the references, taken as a whole, to have modified each planar microwave circuit arrangement of Ishihara with an additional lateral ground plane shield, such as exemplarily taught by Arledge et al. Such a modification would have been considered obvious since it would have imparted to the Ishihara microwave circuits, the advantageous benefits of additional lateral edge shielding, thereby reducing signal leakage from the lateral sides of the microwave circuit, as exemplarily taught by Arledge et al, thereby suggesting the obviousness of such a modification.

Accordingly, regarding claims 9, 10, 16, it would have been obvious in view of the references, taken as a whole, to have modified the Ishihara modules (100, 200) to have been

mounted on substrates, such as conventionally taught/suggested by Arledge et al, thereby suggesting the obviousness thereof.

Claims 2, 4; 11, 13; 17, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the above rejection as applied to claims 1, 10, 16, respectively above, and further in view of Cox et al (of record).

Note that for each of the above rejections, Ishihara discloses the claimed invention except for the bridging conductor being a ribbon or plural wires.

Accordingly, in view of the teaching in Cox et al, it would have been obvious to have replaced the bridging conductor (11) in Ishihara by an alternative yet equivalent bridging means such as the ribbon/plural wires taught by Cox et al, thereby suggesting the obviousness of such a modification.

Claims 3; 12; 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the above rejection as applied to claims 10, 16, respectively above, and further in view of Drapeau et al (of record).

Note that for each of the above rejections, Ishihara discloses the claimed invention except for the bridging conductor being a conductive mesh.

Accordingly, in view of the teaching in Drapeau et al, it would have been obvious to have replaced the bridging conductor (11) of Ishihara by an alternative yet equivalent bridging means such as the conductive mesh (80) conventionally taught by Drapeau et al, thereby suggesting the obviousness of such a modification.

Claims 5-8; 14, 15; 20, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the above rejection as applied to claims 10, 16, respectively above, and further in view of Dove et al ('979), of record.

Ishihara as modified by Arledge et al discloses the claimed invention except for soldering or conductive epoxy bonding of the ground shielding cap to the grounding shield (5). Also, Ishihara differs from the claimed invention in that a ceramic substrate and KQ dielectrics are unspecified.

Dove et al discloses that the use of soldering or conductive adhesive (e.g. epoxy) for the shielding conductor is conventional (e.g. col 5, ls 17-19). Moreover, Dove et al discloses that ceramic substrate (10) is conventional for use with transmission line (9) and that KQ dielectrics (12, 14) are conventional in the art.

Accordingly, it would have been obvious to have: realized the dielectrics of the modules (100, 200) as being KQ dielectrics; realized the substrate as a ceramic; and realized that soldering or conductive adhesive of ground shield portions is conventional. Such modifications would have been considered obvious in view of the conventional nature of such materials and techniques for use in such modules, thereby suggesting the obviousness of such modifications.

(10) Response to Argument

With regard to the first issue subject to review on appeal [i.e. **whether claims 1, 9, 10, 16 and 22-25 are obvious over Ishihara in view of Arledge et al under 35USC 103(a)**], appellants' have advance the argument that Ishihara provides no suggestion or motivation for certain claimed features (i.e. the ground shield surrounding the first and second dielectrics transverse to the conductor, a "ground shield cap" coupled to the upper or second shield of the

microwave circuits). Similarly, appellants' have argued that Arledge et al provides no suggestion or motivation for certain claimed features (i.e. the ground shield surrounding the first and second dielectrics transverse to the conductor, an exposed conductor extending to terminate at a cut edge, cut edges facing each other, a bridge conductor, and a ground shield cap). Moreover, appellants' have argued that the examiner has relied on impermissible hindsight in combining the teachings of Ishihara and Arledge et al. In particular, it is pointed out that Ishihara has only ground planes on top and bottom surfaces of the dielectric with no shielding along the sides of the dielectrics and thus is not shielded in a direction transverse to the conductor. Additionally, appellants' have argued that the prior art of record, especially Ishihara, fails to disclose.

In considering appellants' arguments regarding claims 1, 9, 10, 16, and 22-25, the critical issue appears to be whether there is suggestion or motivation to combine certain features found in the individual reference and whether such a combination was made by the examiner relying on impermissible hindsight. The examiner acknowledges that Ishihara does not disclose ground shielding, which extends along the lateral edges of the microwave circuit to extend in a direction transverse to the conductor. Accordingly, in view of such a deficiency in Ishihara, the examiner has provide the exemplary teachings of Arledge et al reference, which recognizes the critical benefits of a fully shielded microwave circuit in terms of reduced signal leakage. It should be further noted that while Arledge et al does not provide suggestion or motivation for those features alluded to by appellants', such features are accounted for in Ishihara. Accordingly, as set forth in the above obviousness combination, it would have been obvious to have added transverse oriented ground planes to the lateral edges of the microwave circuits of Ishihara to have provided the advantageous benefit of reducing leakage from otherwise unshielded lateral

edges. As for the grounded shield cap, it should be noted that the element containing the bridging conductor (11) includes a dielectric piece (31), which has a ground plane layer (51) disposed on an opposite surface thereof, and as such corresponds to the claimed “grounded shield cap”.

Moreover, when the bridging conductor is inserted to connect the microwave circuits, the ground plane layer must necessarily be in electrical contact with the upper ground plane (5) of each microwave circuit. Therefore, contrary to appellants’ assertion, when the combination of references are taken together, rather than individually, these references do indeed provide a suggestion or motivation to make the proposed combination set forth in the above rejection. See MPEP 2145(IV). Namely, there is an advantageous benefit in improved shielding afforded by the exemplary teaching in Arledge et al to be gained when applied to the analogous art structure in Ishihara, thus providing the suggestion or motivation to have made such a combination.

Moreover, since the suggestion or motivation for making the combination was found in the teachings and /or suggestions of the references themselves, and not gleaned solely from appellants’ disclosure, the examiner has not relied on impermissible hindsight reconstruction in making the obviousness combination. Furthermore, it should be noted that even if the references taken as a whole, do not expressly provide any suggestion or motivation to make the combination, such a combination may none the less be considered proper, when the teaching and/or suggestions prior art references are taken in conjunction with common knowledge in the art (e.g. it is common knowledge in the art that shielding all exposed surface provides improved isolation and optimizes prevention of signal leakage). See MPEP 2145(X)(A).

Regarding the rejection of claim 22, it appears that appellants’ have advance no separate arguments regarding this rejection, and thus intends to have the merits of this rejection rise or fall

with the patentability of independent claim 1. Accordingly, no further rebuttal of this rejection by the examiner is deemed necessary.

Regarding the rejection of claims 9, 10, 23, and 24, appellants' appear to have substantially advanced the same basis or argument as applied with respect to claim 1. Accordingly, the examiner adopts the rebuttals set forth above with respect to claim 1 as the same basis for rebutting these claims.

With regard to the second issue subject to review on appeal (i.e. **whether claims 2, 4, 11, 13, 17 and 19 are obvious over the rejection to claims 1, 10 and 16, respectively in view of Cox et al under 35 USC 103(a)**], appellants' have generally argued that the references in this rejection neither disclose or suggest the claimed invention and that the examiner has again relied on impermissible hindsight in constructing the obviousness combination.

In responding to appellants' arguments regarding claims 2, 4, 11, 13, 17 and 19, it should be noted that appellants have provided arguments which substantially correspond to arguments advanced by appellants in the addressing the rejection based on claims 1, 9, 10, 16 and 22-25. Accordingly, the examiner adopts the rebuttals set forth above with respect to claim 1 as the same basis for rebutting these claims.

With regard to the third issue subject to review on appeal (i.e. **whether claims 3, 12 and 18 are obvious over the rejection to claims 1, 10 and 16, respectively in view of Drapeau et al under 35 USC 103(a)**], appellants' have generally argued that the references in this rejection neither disclose or suggest the claimed invention and that the examiner has again relied on impermissible hindsight in constructing the obviousness combination.

In responding to appellants' arguments regarding claims 3, 12 and 18, it should be noted that appellants have provided arguments which substantially correspond to arguments advanced by appellants in the addressing the rejection based on claims 1, 9, 10, 16 and 22-25. Accordingly, the examiner adopts the rebuttals set forth above with respect to claim 1 as the same basis for rebutting these claims.

With regard to the third issue subject to review on appeal (i.e. **whether claims 5-8, 14, 15, 20 and 21 are obvious over the rejection to claims 1, 10 and 16, respectively in view of Dove et al under 35 USC 103(a)**], appellants' have generally argued that the references in this rejection neither disclose or suggest the claimed invention and that the examiner has again relied on impermissible hindsight in constructing the obviousness combination.

In responding to appellants' arguments regarding claims 5-8, 14, 15, 20 and 21, it should be noted that appellants have provided arguments which substantially correspond to arguments advanced by appellants in the addressing the rejection based on claims 1, 9, 10, 16 and 22-25. Accordingly, the examiner adopts the rebuttals set forth above with respect to claim 1 as the same basis for rebutting these claims.

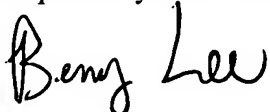
(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



BENNY LEE
PRIMARY EXAMINER
ART UNIT 2817

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